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### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

### Working Party on Automated/Autonomous and Connected Vehicles

#### Third session

Geneva, 3-4 June 2019

## Report of the Working Party on Automated/Autonomous and Connected Vehicles on its third session

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## **I. Attendance**

1. The Working Party on Automated/Autonomous and Connected Vehicles (GRVA) held its third session from 3 to 4 June 2019 in Geneva. Experts from the following countries participated in the work, following Rule 1 of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (TRANS/WP.29/690 as amended): Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Italy, Japan, Luxembourg, the Netherlands, Norway, Poland, Russian Federation, Republic of Korea, South Africa, Spain, Sweden, Switzerland, Thailand and the United Kingdom of Great Britain and Northern Ireland (UK). An expert from the European Commission (EC) also participated. Experts from the following non-governmental organizations (NGOs) and international organizations participated: the American Automotive Policy Council (AAPC), European Association for Electric Mobility (AVERE), International Motor Vehicle Inspection Committee (CITA), European Association of Automotive Suppliers (CLEPA/MEMA/JAPIA), European Garage Equipment Association (EGEA), European Transport Safety Council (ETSC), Federation Internationale des Grossistes, Importateurs et Exportateurs en Fournitures Automobiles (FIGIEFA), International Motorcycle Manufacturers Association (IMMA), International Organization for Standardization (ISO), International Telecommunication Union (ITU) and International Organization of Motor Vehicle Manufacturers (OICA).

## **II. Adoption of the agenda (agenda item 1)**

*Documentation:* ECE/TRANS/WP.29/GRVA/2019/14  
Informal documents GRVA-03-01 and GRVA-03-06

2. GRVA considered the provisional agenda prepared for this session and adopted it (ECE/TRANS/WP.29/GRVA/2019/14). The adopted agenda is reproduced in GRVA-03-06, including all informal documents received until the session's starting date. GRVA also agreed on the running order for the session as proposed in GRVA-03-01. The informal documents distributed during the session are listed in Annex I of this report.

## **III. Highlights of the March 2019 session of WP.29 (agenda item 2)**

*Documentation:* ECE/TRANS/WP.29/1145  
Informal document GRVA-03-07

3. The Secretary presented GRVA-03-07, informing GRVA on the highlights of the March 2019 session of WP.29. He highlighted the work done during the WP.29 week on the draft Framework Document on Automated Vehicles and the request from WP.29 to GRVA in para. 49 of the session report ECE/TRANS/WP.29/1145. He reported on the activities of the Working Parties on General Safety, Passive Safety, Lighting and Light Signalling regarding automated vehicles. He also reported that WP.29 approved the mandate extension of the GRVA Informal Working Groups (IWGs) on Modular Vehicle Combination, on Automatically Commanded Steering Function (ACSF) and the Task Force on Cyber Security and Over-The-Air issues.

## **IV. Terms of Reference for the GRVA informal working groups (agenda item 3)**

*Documentation:* Informal documents GRVA-03-04, GRVA-03-09-Rev.1, GRVA-03-10, GRVA-03-11, GRVA-03-12, GRVA-03-13, GRVA-03-17, GRVA-03-18, GRVA-03-20, GRVA-03-21 and GRVA-03-22

4. The Chair informed GRVA that WP.29 agreed the general approach outlined in the draft framework document on automated/autonomous vehicles (WP.29-177-19) and directed

GRVA to use the issues, topics and deliverables from the document as guidance to inform its further discussions on structuring its work and delivery plans. He noted that WP.29-177-19 was distributed by the secretariat with an official symbol (ECE/TRANS/WP.29/2019/34) for consideration at the June 2019 session of the World Forum. He also noted that World Forum expected GRVA to report at the June 2019 session on its proposed structure, and to propose Terms of Reference (ToRs) for IWGs in this respect.

5. The Chair mentioned that some Contracting Parties expressed the need to amend the table in the framework document and the Secretary introduced a note by the secretariat GRVA-03-09-Rev.1 capturing positions expressed during the three virtual meetings with the Contracting Parties organized by the Chair aimed at facilitating the development of the ToRs.

6. The expert from EC thanked the secretariat for the preparation of document GRVA-03-09-Rev.1. He asked whether the content of Annex II was necessary as it was also contained in GRVA-03-10. The expert from the United States of America proposed to keep this Annex in square brackets.

7. The expert from Germany welcomed the document. He considered that the list of items in Annex 2 was not exhaustive and therefore should only be provided to the IWG as ideas for consideration. He also noted the ambitious deadlines proposed.

8. The expert from OICA noted the late availability of this document and highlighted the need to ensure the completion of current activities when considering future IWGs.

9. The expert from AAPC requested some clarifications on the scope of activities on Functional Requirements and on VMAD. GRVA agreed to consider this when drafting the ToRs.

10. The expert from ITU highlighted some industrial priorities on localization, data storage for automated driving, driver monitoring and transition demands. He noted the need to make progress on these activities as they could have costly hardware implications in case of delay.

11. The expert from Sweden inquired about the work on Roadworthiness of Automated Vehicles. GRVA responded that these activities were essentially a task of the ACSF group and remained current under the ACSF activities.

12. Following the interventions from the European Commission, Japan, United States of America, GRVA agreed that the work to be done on the drafting of Terms of Reference for IWGs would be performed on the basis of Table 1 in this document.

13. The Chair introduced GRVA-03-10, a draft document containing Terms of Reference and Rules of Procedures for four Informal Working Groups. He explained that he drafted one single document aimed to support the drafting of ToR by providing an overview of all activities to avoid unnecessary overlaps.

14. The expert from Germany introduced GRVA-03-11, GRVA-03-12 and GRVA-03-13 with separate Terms of Reference for each of the new IWGs. He stated that he proposed less ambitious deadlines than those of the Framework document.

15. The expert from Spain proposed to merge the approach presented.

16. GRVA noted that the mandate for the Task Force on Cyber Security and OTA issues had been extended by one year by WP.29 in March 2019 and deferred discussion on further activity for this group.

17. The expert from the European Commission preferred to work on the basis of Table 1 in GRVA-03-09-Rev.1. He noted that the work could be done in phases e.g. prioritizing activities on highway, urban and then interurban conditions. He stated that short terms deliveries could be defined without explicitly defining mid-term deliveries at this stage.

18. The expert from OICA preferred a use case approach and a function approach. He stated that priorities should be carefully defined. He recalled as an example that the work on ALKS was prioritizing passenger cars over those for heavy-duty vehicles. He opined that this would not be acceptable for the industry on longer terms.

19. ToRs for the Functional Requirements, Vehicle Test Methods and Data Storage Systems/Event Data Recorders were developed during the session.
20. GRVA reviewed GRVA-03-17 and revised the draft during the session to include references to existing standards and guidelines as proposed by Spain and the United States of America respectively. This approach formed the template for drafting ToRs for the Test Methods group (VMAD) and a revision of the GRSG proposal for an IWG on EDR/DSSAD.
21. GRVA agreed that the draft Terms of Reference as reproduced in GRVA-03-20, GRVA-03-21 and GRVA-03-22 should be transmitted to WP.29 for consideration at the June 2019 session (see Annexes III to V). GRVA agreed that the work on the items proposed in Table 1 of GRVA-03-09-Rev.1 already started, subject to final endorsement by WP.29 at its June 2019 session.
22. GRVA agreed that the existing objectives of the IWG on ACSF should not be affected by the new IWG on FRAV. GRVA agreed that the IWG on FRAV should structure its activities to allow the leadership of the IWG on ACSF to finish its work e.g. common timing and venues for ACSF and FRAV sessions.
23. GRVA briefly discussed the leadership of the IWG. GRVA agreed on the need for a global representation including Asia/Pacific, Europe and North America. GRVA was informed of Countries willing to contribute to the leadership of the IWGs (see Annex II). GRVA concluded that the leadership question would be decided by WP.29 at its June 2019 session.

## **V. Connectivity (agenda item 4)**

### **A. Cyber security and data protection**

*Documentation:* ECE/TRANS/WP.29/GRVA/2019/2  
Informal documents GRVA-03-02, GRVA-03-05 and GRVA-03-14

24. The expert from the United Kingdom, Co-Chair of the Task Force on Cyber Security and Over-The-Air software updates (TF CS/OTA) reported (GRVA-03-02) on the work of the group (recommendations, a draft regulatory text with provisions for the approval of a manufacturer Cyber Security Management System and provisions for the approval of a vehicle with regards to cyber security), including the ongoing testing activities. He clarified that the outcome of the work did not aim at specifying technical solutions, preventing all kind of cyber security events to happen, securing systems outside of the vehicles (e.g. pendrives), specifying durability requirements, listing all risks and corresponding mitigation solutions, but rather a systems-based approach to security management.
25. He explained that the current testing phase was aimed at checking the robustness of the proposal. He noted that manufacturer involvement represented seventy per cent of the global sales. The expert from AVERE confirmed that North American manufacturers were involved in the testing phase. The output could result in the production of interpretation guidelines if necessary.
26. He answered to the questions raised by the GRVA experts. He confirmed that the work was involving Contracting Parties using the regime of self-certification, but that no Country had indicated their intention to become a sponsor in the sense of the 1998 Agreement.
27. The expert from the European Commission requested clarifications about the purpose of the non-regulatory text in ECE/TRANS/WP.29/GRVA/2019/2. He noted the importance to define pass/fail criteria (also for audits) in the context of mutual recognition of type approvals. He expressed the need to consider covering hardware updated in this context. He stated that cyber security impacts privacy protection and mentioned other regulations in other jurisdictions that could complement or impact the ongoing work, such as the European General Data Protection Regulation (GDPR).

28. The expert from France proposed to revisit the definition of a type in the regulatory draft. He proposed to consider the vehicle architecture as one discriminatory feature.
29. The expert from Germany expressed support to the test phase work and expressed the need to consider lifetime provisions.
30. The expert from CLEPA explained that their industry would have a role to play to support cyber security and asked that GRVA consider provisions that would address their role.
31. The expert from Sweden noted the proposal on slide 16 of GRVA-03-02 “UNECE may decide to develop a harmonized framework on [the post production and vehicle support by the manufacturer] topic” and proposed to reflect on this point.
32. The expert from Spain expressed concern with the lack of guarantee over the whole life cycle and proposed to look at practices of other industry sectors to explore best practices. She also noted that these activities were linked with the activities of existing cyber security authorities and that frameworks were already existing. She stated that the outcome of the test phase should result into amendments instead of interpretation documents.
33. The expert from ITU stated that basic requirements should be built in the communication side and that support provisions could be linked to the life of the communication system (He mentioned as an example the Global System for Mobile Communications (GSM) protocol shutdown).
34. The expert from FIGIEFA introduced GRVA-03-16 proposing amendments to ECE/TRANS/WP.29/GRVA/2019/2. She mentioned the importance for the after sales sector to take into consideration their needs when drafting provisions. She proposed that Approval Authorities should, as neutral entities, determine independently from manufacturers the companies that are *authorized parties*. She proposed that the Regulation specifies that the manufacturers shall share with authorized parties: data, function calls and resources inside of the vehicle to allow third parties to provide services to maintain safety and security of vehicles during their lifetime. She also proposed to replace throughout the proposal “life cycle” by “life time”.
35. The expert from the United Kingdom, Co-Chair of the Task Force, explained that the Contracting Parties were able to nominate Approval Authorities according to their competencies (1958 Agreement, Article 2, para.2). He explained that the group did not reach consensus on the post production and support duration issue and that in that case existing national regulations would apply. He confirmed that the work of the group did not conflict with other regulations such as the European GDPR. He also confirmed that the group did not discuss in detail the level of access required in GRVA-03-16.
36. The expert from France stated that the Regulation should not freeze the market for repair and maintenance. But he also expressed concerns with safety and cyber security risks posed by automotive product modification and access as proposed in GRVA-03-16. The expert from Sweden also expressed interest to the position expressed in the document and agreed with France on the need for the right balance between access and security.
37. The expert from OICA stated that the access right matter is not a cyber security one. He added that such provisions clarifying access to data for the purpose of balanced market would be relevant for a Regulation dealing with access right issues.
38. The expert from IMMA introduced GRVA-03-05, requesting to remove vehicles of Category L from the scope of the draft regulatory proposals. Several contracting parties were in favour to keep the L category vehicles in the scope of the draft regulation. Other agreed that this category could be introduced in the regulation, once experience would be gathered with the type approval of vehicles of Categories M and N. GRVA agreed to keep the Category L in square brackets in the text.
39. GRVA agreed to consider the organization of a workshop before the next GRVA session to continue the consideration of this agenda item, once the test phase would be completed and asked the task force to coordinate actions with the secretariat.

## **B. Software updates (incl. Over-The-Air updates)**

*Documentation:* ECE/TRANS/WP.29/GRVA/2019/3  
Informal documents GRVA-03-03, GRVA-03-05 and GRVA-03-15

40. The expert from the United Kingdom, Co-Chair of the Task Force CS/OTA reported (GRVA-03-03) on the outcome of the group on software updates (recommendations, provisions regarding the approval of a manufacturer software updates management system and the approval of a vehicle with regards to software updates as well as a proposal for a generic annex for relevant UN Regulations for the implementation of the Software Identification Number for a give Regulations “RxSWIN”) including the ongoing test phase.

41. The expert from CLEPA invited GRVA to think about the role of suppliers in this context. The Task Force Co-Chair answered that the software update process is not dependent upon the origin of the base version, it is an end-to-end process for which a non-corrupted software is transmitted to the vehicle, at the right place and the right time.

42. GRVA discussed the appropriate way to involve the Type Approval Authority in the decision, whether or not an updated software triggers a new RxSWIN.

43. The expert from the European Commission supported the work done. He proposed to inform and involve the other WP.29 subsidiary bodies (“GRs”). He added that, for this purpose, clarifications about the benefits and the added value of this work should be provided in written. He also asked for clarifications about the definition of a vehicle type for the the purpose of the draft regulatory texts proposed.

44. The Chair of GRVA inquired whether the group made progress on making the outcome of the work suitable for use under the 1998 Agreement.

45. The expert from the United States of America confirmed that they provided comments. He mentioned the need for a delicate balance because the work under the 1958 Agreement would be continued and consideration should also be given to its suitability for later adaptation for the 1998 Agreement.

46. The expert from OICA supported the work done. He mentioned that this exercise provided for the first time a systematic link between the software, the hardware and the type approval. He explained that the concept “RxSWIN” was defined under the 1958 Agreement but that it could be used outside of the context of the Agreement. He encouraged is all Countries to use it.

47. GRVA discussed the next steps of the work. GRVA noted that the outcome of the test phase would be presented at the next Task Force meeting end of August in Geneva. GRVA discussed the need for a workshop to include type approval and certification experts in the discussion. GRVA requested the Co-Chairs of the Task Force and the GRVA secretary to liaise and organize the workshop.

## **VI. Automated Lane Keeping System (ALKS) (agenda item 5)**

### **A. Automatically Commanded Steering Function (ACSF)**

48. No information was provided under this agenda item at this session.

### **B. New assessment / test method**

49. No information was provided under this agenda item at this session.

### **C. Data Storage System for Automated Driving vehicles**

50. No information was provided under this agenda item.

**D. Functional safety, Complex Electronic (CEL) control system**

51. No information was provided under this agenda item.

**VII. Other business (agenda item 6)**

52. No information was provided under this agenda item.

## Annex I

[English only]

### List of informal documents (GRVA-03-...) considered during the session

No.	(Author) Title	Follow-up
1	(Chair) Running Order	A
2	(TF CS/OTA) Overview of the recommendations on cyber security	F
3	(TF CS/OTA) Overview of the recommendations on software updates	F
4	(GRSG) Informal Working Group on EDR/DSSAD	F
5	(IMMA) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2019/02 and /03	F
6	(Secretariat) Updated annotated provisional agenda for the third session of GRVA (30/May/2019)	F
7	(Secretariat) Highlights of the 177th WP.29 and general information	F
8	(CS/OTA) Working paper on decisions to be made by GRVA with regard to Cyber Security and Software Updates	F
9- Rev.1	(Secretariat/Japan) Preparation of the discussion on agenda item 3 of the provisional agenda of the third GRVA	D
10	(Chair) Delivery of WP.29 Priorities for Vehicle Automated Driving Systems	D
11	(Germany) Proposal for an Informal Working Group on Functional Requirements for Automated and Autonomous Vehicles (FRAV) (new IWG)	F
12	(Germany) Proposal for an Informal Working Group on Validation Method for Automated Driving (VMAD) (new IWG)	F
13	(Germany) Proposal for an Informal Working Group on Cyber Security and (Over-the-Air) Software-Updates ("clean" version)	F
14	(EC) Comments on ECE/TRANS/WP29/GVA/2019/2	F
15	(EC) Comments on ECE/TRANS/WP29/GVA/2019/3	F
16	(FIGIEFA) Comments on GRVA-02-37	E
17	(EC) Proposal for ToR and RoP for a new IWG on FRAV	F
18	(Russian Federation) Proposal for ToR and RoP for a new IWG on FRAV (on the basis of GRVA-03-07)	F
19	(EC) Proposal for an Informal Working Group on Validation Methods for Automated Driving (VMAD)	F
20	(GRVA) Proposed Terms of Reference and Rules of Procedures for a new IWG on FRAV	G
21	(GRVA) Proposed Terms of Reference and Rules of Procedures for a new IWG on VMAD	G
22	(GRVA) Proposed Terms of Reference and Rules of Procedures for a new IWG on EDR/DSSAD	G
23	(OICA/CLEPA) The "safety elements" and the "Multi Pillar Approach"	H

## Notes:

- A Endorsed or adopted without amendment.
- B Endorsed or adopted with amendments or corrections.
- C Resume consideration on the basis of a document with an official symbol.
- D Kept as reference document/continue consideration.
- E Revised proposal for the next session.
- F Consideration completed or to be superseded.
- G Submit to WP.29.
- H Posted after the session as information.

## Annex II

### Provisional list of [Chairs/Co or Vice-Chairs] of GRVA Informal Working Groups

GRVA	Automated/Autonomous and Connected Vehicles	Mr. B. Frost Ms. C. Chen Mr. T. Onoda	UK China Japan	2020
	[Functional Requirements for Automated and Autonomous Vehicles (FRAV)] [Incorporating ACSF below]	[Tbd. <sup>1</sup> ] [Tbd. <sup>1</sup> ] [Mr. R. Damm <sup>1</sup> ]	[USA] [China] [Germany]	[March 2020]
	[Validation Method for Automated Driving (VMAD)]	[Mr. T. Onoda <sup>1</sup> Mr. P. Striekwold <sup>1</sup> ] [Tbd.]	[Japan Netherlands] [Canada <sup>2</sup> ]	[December 2020]
	[Cyber Security and Over-The-Air software updates (CS/OTA)]	[Mr. T. Niikuni <sup>1</sup> Dr. D. Handley <sup>1</sup> ]	[Japan UK]	[November 2019]
	[Event Data Recorder / Data Storage System for Automated Driving (EDR/DSSAD)]	[T. Guiting <sup>1</sup> T. Niikuni <sup>1</sup> ]	[Netherlands Japan]	[November 2020]
	[Automatically Commended Steering Functions (ACSF)] [Incorporated in FRAV above]	[Mr. C. Theis <sup>1</sup> Mr. H. Morimoto <sup>1</sup> ]	Germany Japan	[March 2020]
	Advanced Emergency Braking Systems (AEBS)	Mr. A. Lagrange <sup>1</sup> Mr. T. Hirose <sup>1</sup>	EC Japan	March 2020
	Modular Vehicle Combinations (MVC)	Mr. A. Gunneriusson	Sweden	March 2020

<sup>1</sup> IWG Co-Chairs

<sup>2</sup> Subject to political confirmation

## Annex III

# Functional Requirements for Automated and Autonomous Vehicles (FRAV)

## Draft Terms of Reference and Rules of Procedures proposed for an Informal Working Group on Functional Requirements for Automated and Autonomous Vehicles

### I. Terms of Reference

1. ECE/TRANS/WP29/2019/34 contains the strategic vision for the activities of WP29, GRVA and its Informal Working Groups (IWGs) with respect to automated vehicles. This framework document directs GRVA and its IWGs to use the issues, topics and deliverables from that document as guidance to inform further discussions, activities and outcomes.
2. As noted in document ECE/TRANS/WP29/2019/34, the IWG shall:
  - Develop functional (performance) requirements for automated/autonomous vehicles, in particular, the combination of the different functions for driving: longitudinal control (acceleration, braking and road speed), lateral control (lane discipline), environment monitoring (headway, side, rear), minimum risk manoeuvre, transition demand, HMI (internal and external) and driver monitoring. This work item should also cover the requirements for Functional Safety;
  - Do this in line with the following principles/elements a. System safety, b. Failsafe Response, c. HMI / Operator information d. OEDR (Functional Requirements) described in document ECE/TRAN/WP29/2019/34.
3. The IWG shall take full account of developments and work in full cooperation with other subsidiary Working Parties (GRs) of WP.29 and their IWGs.
4. The group should take into account existing data, research and voluntary standards available in the contracting parties in developing its proposals.
5. The IWG shall deliver common functional requirements, based upon existing national/regional guidelines and other relevant reference documents, (1958 and 1998 Agreements) for the [September 2019 session] of GRVA.
6. The IWG may propose to GRVA to work in phases on the different work items.
7. Text shall, to the fullest extent possible, be performance based and technology neutral. It shall be prepared in a neutral form such that it can be adapted for use under the 1958, 1997 and 1998 Agreements.

### II. Rules of Procedure

1. The IWG shall report to GRVA and is open to all participants of WP.29.
2. [Co-Chairs] and a Secretary will manage the IWG.
3. Experts [among the WP.29 participants] may be invited upon invitation by the [co-chairs] to ensure engagement of the best available experts.
4. The working language of the IWG will be English.
5. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated five working days in advance to the meeting.

6. An agenda and related documents will be circulated to all members of the IWG in advance of all scheduled meetings.
7. Decisions will be reached by consensus. When consensus cannot be reached, the [Co-Chairs] of the groups shall present the different points of view to GRVA. The [Co-Chairs] may seek guidance from GRVA as appropriate.
8. The progress of the IWG will be reported routinely to GRVA – wherever possible as an informal document and presented by the [Co-Chairs].
9. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.
10. Final decision on regulatory proposals rests with WP.29 and the Contracting Parties.

## Annex IV

# Validation Methods for Automated Driving (VMAD)

## Draft Terms of Reference and Rules of Procedures proposed for an Informal Working Group on Validation Methods for Automated Driving

### I. Terms of Reference

1. ECE/TRANS/WP29/2019/34 contains the strategic vision for the activities of WP29, GRVA and its Informal Working Groups (IWGs) with respect to automated vehicles. This framework document directs GRVA and its IWGs to use the issues, topics and deliverables from that document as guidance to inform further discussions, activities and outcomes.
2. As noted in document ECE/TRANS/WP29/2019/34, the IWG shall:
  - Develop assessment methods, including scenario's, to validate the safety of automated systems, based on a multi pillar approach including auditing, simulation, virtual testing, test track testing, real world testing;
  - Do this in line with the following principles/elements d. assessment method/test for Object Event Detection and Response and f. Validation for System Safety.
3. The IWG shall take full account of developments and work in full cooperation with other subsidiary Working Parties (GRs) of WP.29 and their IWGs.
4. The IWG should take into account existing data, research and standards available in the contracting parties in developing its proposals.
5. The IWG shall deliver New assessment /Test method of Automated Driving (AD) for the [February 2021] session of GRVA.
6. The IWG shall deliver requirements to be applied to the safety aspects of electronic control systems ("CEL") for AD for the [February 2021] session of GRVA.
7. The IWG shall deliver tests and assessment methods, (including CEL) for Lane Keeping systems of SAE levels 3/4 as a New UN Regulation for contracting parties to the 1958 Agreement for the [February 2020] session of GRVA.
8. The IWG shall deliver a review of the existing and upcoming methods and a proposed way forward for the assessment of AD for the [September 2019] session of GRVA.
9. The IWG may request to work in phases on the different work items.
10. The text shall, to the fullest extent possible, be performance based and technology neutral and be prepared in a neutral form such that it can be adapted for use under the 1958, 1997 and 1998 Agreements.

### II. Rules of Procedure

1. The IWG shall report to GRVA and is open to all participants of WP.29.
2. [Co-Chairs] and a Secretary will manage the IWG.
3. Experts [among the WP.29 participants] may be invited upon invitation by the [Co-Chairs] to ensure engagement of the best available experts.
4. The working language of the IWG will be English.
5. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the meeting. The group may refuse to

discuss any item or proposal which has not been circulated five working days in advance to the meeting.

6. An agenda and related documents will be circulated to all members of the IWG in advance of all scheduled meetings.

7. Decisions will be reached by consensus. When consensus cannot be reached, the [Co-Chairs] of the groups shall present the different points of view to GRVA. The [Co-Chairs] may seek guidance from GRVA as appropriate.

8. The progress of the IWG will be reported routinely to GRVA – wherever possible as an informal document and presented by the [Co-Chairs].

9. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.

10. Final decision on regulatory proposals rests with WP.29 and the Contracting Parties.

## Annex V

### EDR/DSSAD

#### **Draft Terms of Reference and Rules of Procedures proposed for an Informal Working Group on Event Data Recorder and Data Storage System for Automated Driving (EDR/DSSAD)**

#### **I. Terms of Reference**

1. ECE/TRANS/WP29/2019/34 contains the strategic vision for the activities of WP29, GRVA, GRSG and their Informal Working Groups (IWGs) with respect to automated vehicles. This framework document directs GRVA, GRSG and their IWGs to use the issues, topics and deliverables from that document as guidance to inform further discussions, activities and outcomes.
2. As noted in document ECE/TRANS/WP29/2019/34, the IWG shall develop draft proposals for Event Data Recorder (EDR) for conventional vehicles and automated/autonomous vehicles and for Data Storage System for Automated Driving (DSSAD) for automated/autonomous vehicles. These categories shall be understood as systems collecting and storing a determined range of vehicle data, including:
  - Information related to collisions valuable for accident reconstruction (EDR);
  - The status of the automated/autonomous driving system and the status of the driver (DSSAD).
3. To this effect, the IWG shall address the following issues:
  - Define the scope and specific objectives of and differences between EDR and DSSAD,
  - Define EDR and DSSAD requirements.
4. In particular, the IWG will consider defining the categories of data recorded, the events triggering recording, as well as technical specifications in terms of performances of such systems, such as the required endurance, accessibility, storage capacity or the specific security requirements, as well as the required privacy and data protection by design features.
5. The text shall, to the fullest extent possible, be performance based and technology neutral. It shall be prepared in a neutral form such that it can be adapted for use under the 1958, 1997 and 1998 Agreements.
6. The IWG should take into account existing data, research and standards available in the contracting parties in developing its proposals.
7. The group will come with clear objectives, scope, deadlines and the identification of differences between DSSAD and EDR for the [September 2019 session] of GRVA and [October 2019 session] of GRSG.
8. DSSAD requirements for Automated Lane Keeping Systems should be submitted to GRVA at its [February 2020] session.
9. EDR requirements should be submitted to GRSG for consideration at its [October 2020] session.

#### **II. Rules of Procedure**

1. The IWG shall report to both GRVA and GRSG and is open to all participants of WP.29.
2. [Co-Chairs] and a Secretary will manage the IWG.

3. Experts [among WP.29 participants] may be invited upon invitation by the [co-chairs] to ensure engagement of the best available experts.
  4. The working language of the IWG will be English.
  5. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated five working days in advance to the meeting.
  6. An agenda and related documents will be circulated to all members of the IWG in advance of all scheduled meetings.
  7. Decisions will be reached by consensus. When consensus cannot be reached, the [Co-Chairs] of the groups shall present the different points of view to the relevant GR. The [Co-Chairs] may seek guidance from the relevant GR, as appropriate.
  8. The progress of the IWG will be reported routinely to GRVA – wherever possible as an informal document and presented by the [Co-Chairs].
  9. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.
  10. Final decision on regulatory proposals rests with WP.29 and the Contracting Parties.
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